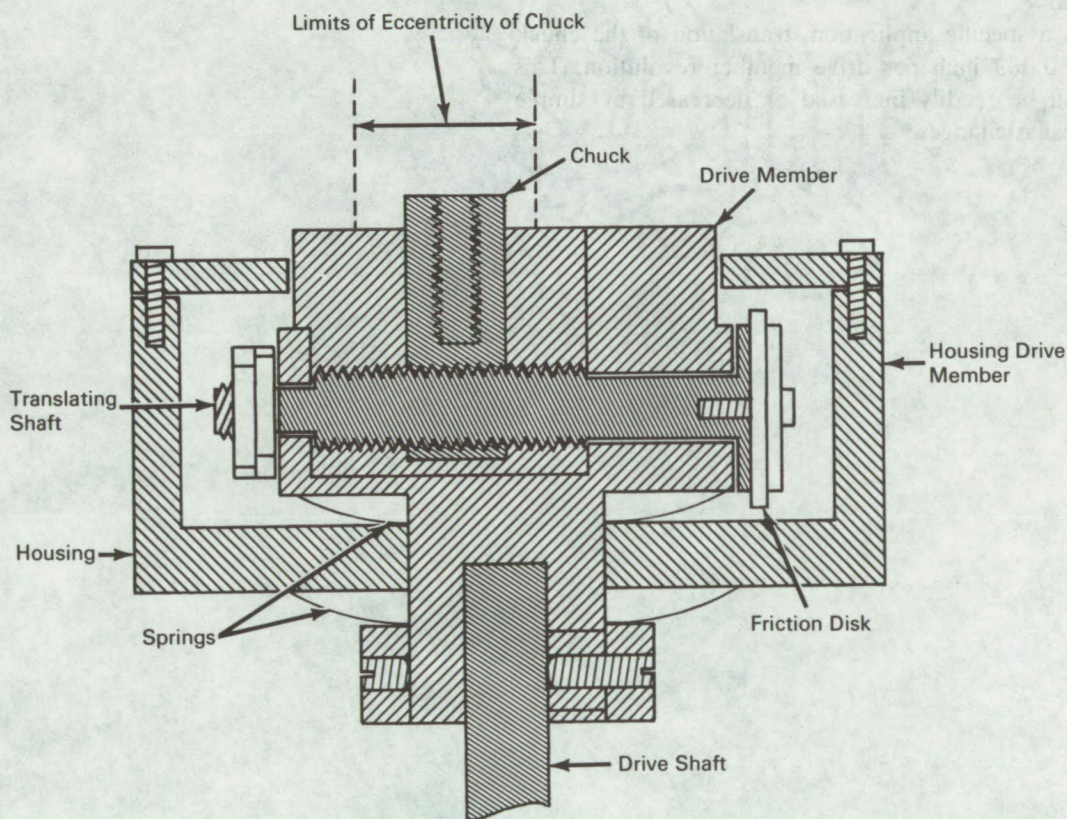


# NASA TECH BRIEF



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## Eccentric Drive Mechanism is Adjustable During Operation



### The problem:

To change the width of a weld weaving pattern it has been necessary to discontinue the weld, stop the weaver, unlock the eccentric drive mechanism, and change its setting. Upon reassembly and restart, if the setting was not correct, the process had to be repeated.

### The solution:

An eccentric drive mechanism that can be adjusted throughout its off-center range while in the operating

mode and without the removal of any associated tooling.

### How it's done:

A drive member is secured to a drive shaft that supplies the rotational force. A housing about the drive member is free floating, being supported in a neutral position relative to the drive member by a pair of elliptical springs. The drive member mounts a threaded translating shaft that has a rubber friction

(continued overleaf)

disk attached to one end. A tool chuck rides on the translating shaft in a slot machined into the drive member.

With the mechanism in operation, the eccentric position of the chuck, relative to the drive member centerline, may be quickly adjusted. The rotating housing is easily brought to a stop manually while the drive member with its associated hardware and attached tooling continues to rotate. By manually raising or lowering the housing, the friction disk is caused to contact either the upper or lower housing inner surface. This makes the disk rotate right or left to drive the translating shaft and cause the tool chuck to move toward or away from the drive member centerline.

**Notes:**

1. In a specific application, translation of the chuck is 0.083 inch per drive member revolution. This can be readily increased or decreased by simple design changes.

2. Inquiries concerning this invention may be made to:

Technology Utilization Officer  
Marshall Space Flight Center  
Huntsville, Alabama 35812  
Reference: B67-10373

**Patent status:**

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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under contract to  
Marshall Space Flight Center  
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